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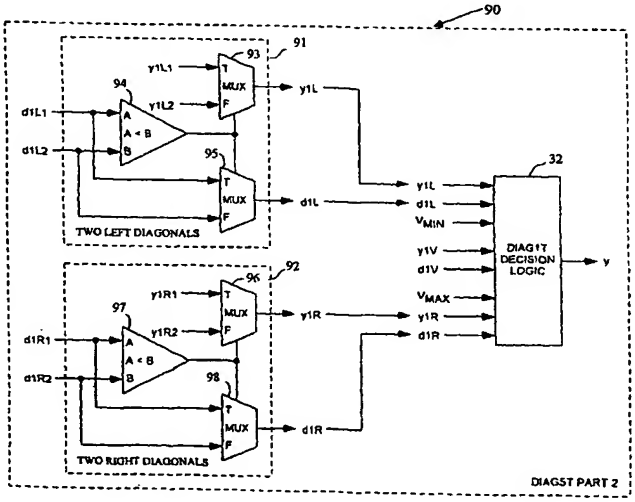
(54) Title: UPCONVERSION WITH IMPROVED DIAGONAL ENHANCEMENT



(57) Abstract: Video upconverted from interlaced to progressive has improved diagonal enhancement. A plurality of averages and differences are determined (using 70) from different pixels near a given output pixel, including: a vertical average (y1V), first and second left diagonal averages (y1L1, y1L2), first and second right diagonal averages (y1R1, y1R2), a vertical difference (d1V), first and second left diagonal differences (d1L1, d1L2), and first and second right diagonal differences (d1R1, d1R2). A selection (using 90) among the averages is based on an absolute value of a minimal difference therebetween. The selection is constrained (using 44) to select the vertical average if the differences among the averages are ambiguous, that is, when a value for the given output pixel is not within a range of values defined by pixels vertically adjacent to the given output pixel or when a minimal difference among the respective differences is not unique.

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